06/25/2009 16:39 #144 P.001/014

From:



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Examiner Jakovac,

Per our conversation this afternoon, please find the attached proposal for an amendment. The proposed amendment addresses the rejection under 35 U.S.C. § 101 by adding recitation of a particular machine to the independent claims. It addresses the rejection under 35 U.S.C. § 103(a) by adding specific definitions of the slope and ordinate intercept to the independent claims. We are ready to discuss this amendment further during a personal interview at the USPTO. We invite you to propose a time and date for the meeting.

Feel free to call (703) 519-9810 if you will require any additional information. If necessary, we can present further details regarding the proposed amendment at a personal interview at the USPTO.

Sincerely,

Patrick Wamsley (Registration No. 59,241)

Enclosure

Total Pages: 13

PTOL-413A (10-07)
Approved for use through 05/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Applicant Initiated Interview Request Form					
Application No.: 10/696,034			First Named Applicant: Peter Rabinovitch		
Examiner: Ryan J Jakovac Art Unit:		Jnit:2445	Status of .	Status of Application: Pending	
Tentative Participants: (1) Examiner Jakovac (3) Patrick Wamsley (59) Proposed Date of Interv		(2) (4)	Scott Pojunas (62,590) Proposed Time: TBI		
Type of Interview Requested: (1) Telephonic (2) Personal (3) Video Conference Exhibit To Be Shown or Demonstrated: YES NO If yes, provide brief description:					
Issues To Be Discussed					
Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) Rej. 101	1, 25	N/A			
(2) Rej. 103	1, 25, 44, 46	Mei, SLA, Shay			
(3) <u>Rej. 103</u>	23, 42	Johnson			
(4)					
Continuation Sheet Attached					
Brief Description of Argument to be Presented: We plan to request withdrawal of the rejections because the amended claims are patentable over the cited references.					
We plan to describe how the amendment has addressed the rejections under 35 U.S.C. 101.					
An interview was conduction on the above-identified application on NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01). This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible. Applicant/Applicant's Representative Signature Patrick G. Wamsley Typed/Printed Name of Applicant or Representative 59,241 Registration Number, if applicable					

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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Application No: 10/696,034

Attorney's Docket No: ALC 3415

CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in

the application.

Listing of Claims

(Currently Amended) A method of characterizing a content traffic flow at 1

2 communication nodes of a communications network for communications network

Service Level Agreement (SLA) compliance assessment by a central entity network 3

management system (NMS) connected to said communication nodes, the method

comprising: 5

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at least one of said communication nodes tracking cumulative content 6

arrivals, in real time, for the content traffic flow to derive a time variation of

cumulative content arrivals; 8

said at least one of said nodes adjusting characteristic arrival curve 9

parameters, the arrival curve parameters comprising at least a slope, wherein the

slope represents a degree of burst transmission, and an ordinate intercept, wherein

the ordinate intercept represents a sustainable content conveyance rate, in fitting 12

an arrival curve to the variation of cumulative content arrivals for the content

traffic flow; and 14

- 2 -

said at least one of said nodes reporting said adjusted arrival curve
parameters to said central entity NMS to enable said central entity NMS to carry
out said SLA compliance assessment with respect to the content traffic flow,
thereby reducing reporting bandwidth overhead by minimizing an amount of
content arrival information communicated to said-central entity NMS.

- 1 2. (Currently Amended) The method of providing a content traffic flow
- 2 characterization as claimed in claim 1, wherein reporting arrival curve parameters
- to the central entity NMS is carried out in real time, and reporting is limited to
- 4 arrival curve parameters only.
- 1 3. (Previously Presented) The method claimed in claim 1, further comprising:
- said at least one of said nodes including a timestamp specifying the time of
- 3 the arrival curve fit.
- 4. (Currently Amended) The method claimed in claim 1, further comprising:
- said at least one of said nodes receiving a request for an arrival curve
- 3 parameter update;
- 4 reporting arrival curve parameters to the central entity NMS only in
- response to a request; and
- further providing a reduction in the reporting bandwidth overhead.

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- 5. (Previously Presented) The method claimed in claim 1, further comprising: 1
- said at least one of said nodes tracking one of cumulative received packets, 2
- bits, bytes, words, and double words. 3
- (Canceled) 6.
- 7. (Previously Presented) The method claimed in claim 1, further comprising:
- said at least one of said nodes adjusting four arrival curve parameters in 2
- fitting a four parameter arrival curve. 3
- 8. (Previously Presented) The method claimed in claim 1, further comprising: 1
- said at least one of said nodes fitting the arrival curve in accordance with one 2
- of a shifted linear regression procedure, and a convex hull fitting procedure. 3
- 9-11. (Canceled) 1
- (Currently Amended) A method of assessing communications network 12. 1
- conformance to a Service Level Agreement (SLA) in respect of a content traffic flow 2
- at communication nodes of a communications network, the method comprising: 3

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receiving from at least one of said communication nodes an arrival curve 4

parameter report in respect of a tracked content traffic flow in real time:

computing a resource utilization related value based on the received arrival 6

curve parameter report in respect of a content traffic flow pattern and at least one 7

service curve; and

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providing a communications network SLA conformance assessment to a 9

network management system (NMS) based on the computed resource utilization 10

related value, wherein receiving arrival curve parameters, the arrival curve

parameters comprising at least a slope, wherein the slope represents a degree of 12

burst transmission, and an ordinate intercept, wherein the ordinate intercept

represents a sustainable content conveyance rate, only enables the provision of a

real-time scalable communications network SLA conformance assessment solution

while reducing reporting bandwidth overhead by minimizing an amount of content

arrival information communicated by said at least one of said nodes.

13. (Currently Amended) The method claimed in claim 12, further comprising:

a central entity the NMS requesting an arrival curve parameter report from

said one of said nodes.

14. (Previously Presented) The method claimed in claim 12, further comprising: 3

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- retrieving the at least one service curve from storage in respect of the content traffic flow.
- 1 15. (Previously Presented) The method claimed in claim 12, further comprising:
 2 retrieving the at least one service curve from said at least one node, said at

least one node being in a path of the content traffic flow.

- 16. (Previously Presented) The method claimed in claim 12, further comprising:
 2 retrieving from storage a sequence in which multiple service curves are to be
 3 combined with the arrival curve parameters in respect of the content traffic flow.
- 17. (Previously Presented) The method claimed in claim 12, further comprising:
 discovering a sequence in which multiple service curves are to be combined
 with the arrival curve parameters in respect of the content traffic flow.
- 1 18. (Previously Presented) The method claimed in claim 12, further comprising:
 2 computing Quality-of-Service (QoS) parameters.
- 1 19. (Previously Presented) The method claimed in claim 12, further comprising:
 2 convolving an arrival curve respecting the received arrival curve parameters
 3 with a service curve.

- 1 20. (Previously Presented) The method claimed in claim 12, further comprising:
- comparing the computed resource utilization related value with a
- 3 corresponding agreed upon resource utilization value.
- 1 21. (Previously Presented) The method claimed in claim 12, further comprising:
- selectively modifying communications network operational parameters to
- ensure that the resource utilization values comply with agreed upon SLA resource
- 4 utilization values.
- 1 22. (Previously Presented) The method claimed in claim 12, further comprising:
- selectively modifying SLA specified resource utilization values to ensure that
- 3 the current communications network operation is accommodated in the SLA.
- 1 23. (Previously Presented) The method claimed in claim 12, further comprising:
- 2 providing a proposal for traffic content redirection onto one of existing
- 3 infrastructure and new to be deployed infrastructure.
- 1 24. (Canceled)

- 1 25. (Currently Amended) A method of centrally assessing communications
- 2 network conformance to a Service Level Agreement (SLA) in respect of a content
- 3 traffic flow at least one of a plurality of communication nodes of a communications
- 4 network, the method comprising:
- said at least one communication node tracking cumulative content arrivals
- 6 for the content traffic flow, in real-time, to derive a time variation of cumulative
- 7 content arrivals at a communications network node;
- said at least one of said nodes adjusting arrival curve parameters, the arrival
- 9 curve parameters comprising at least a slope, wherein the slope represents a degree
- 10 of burst transmission, and an ordinate intercept, wherein the ordinate intercept
- represents a sustainable content conveyance rate, in fitting an arrival curve to the
- variation of cumulative content arrivals for the content traffic flow;
- said at least one node reporting, in real time, arrival curve parameters to a
- 14 central entity network management system (NMS) assessing communications
- 15 network SLA conformance with respect to the content traffic flow;
- said central entity NMS receiving an arrival curve parameter report in
- 17 respect of a tracked content traffic flow from said at least one network node in real-
- 18 time;
- computing a resource utilization related value based on the received arrival
- 20 curve parameter report in respect of a content traffic flow pattern and at least one
- 21 service curve; and

- providing a communications network SLA conformance assessment based on
 the computed resource utilization related value[[,]]: and
- employing arrival curve parameter reporting greatly reducing resource overheads in providing communications network SLA conformance assessments.
- 1 26. (Previously Presented) The method claimed in claim 25, further comprising:
- said at least one of said nodes including a timestamp specifying the time of
- 3 the arrival curve fit.
- 1 27. (Currently Amended) The method claimed in claim 26, further comprising:
- said at least one of said nodes receiving a request for an arrival curve
- 3 parameter update;
- reporting arrival curve parameters to the central entity NMS only in
- 5 response to a request; and
- further providing a reduction in the reporting bandwidth overhead.
- 1 28. (Previously Presented) The method claimed in claim 25, further comprising:
- said at least one of said nodes tracking one of cumulative received packets,
- 3 bits, bytes, words, and double words.
- 1 29. (Canceled)

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- 1 30. (Previously Presented) The method claimed in claim 25, further comprising:
- said at least one of said nodes adjusting four arrival curve parameters in
- 3 fitting a four parameter arrival curve.
- 1 31. (Previously Presented) The method claimed in claim 25, further comprising:
- said at least one of said nodes fitting the arrival curve in accordance with one
- of a shifted linear regression procedure, and a convex hull fitting procedure.
- 1 32. (Previously Presented) The method claimed in claim 25, further comprising:
- requesting an arrival curve parameter report from said at least one of said
- 3 nodes.
- 1 33. (Previously Presented) The method claimed in claim 25, further comprising:
- retrieving the at least one service curve from storage in respect of the content
- 3 traffic flow.
- 1 34. (Previously Presented) The method claimed in claim 25, further comprising:
- retrieving the at least one service curve from said at least one node, said at
- 3 least one node being in a path of the content traffic flow.

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- 35. (Previously Presented) The method claimed in claim 25, further comprising: 1
- retrieving from storage a sequence in which multiple service curves are to be $\mathbf{2}$
- combined with the arrival curve parameters in respect of the content traffic flow. 3
- 36. (Previously Presented) The method claimed in claim 25, further comprising: 1
- discovering a sequence in which multiple service curves are to be combined 2
- 3 with the arrival curve parameters in respect of the content traffic flow.
- 37. (Previously Presented) The method claimed in claim 25, further comprising: 1
- computing Quality-of-Service (QoS) parameters. 2
- 38. (Previously Presented) The method claimed in claim 25, further comprising:
- convolving an arrival curve respecting the received arrival curve parameters 2
- with a service curve. 3
- 39. (Previously Presented) The method claimed in claim 25, further comprising:
- comparing the computed resource utilization related value with a 2
- corresponding agreed upon resource utilization value. 3
- 40. (Previously Presented) The method claimed in claim 25, further comprising: 1

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selectively modifying communications network operational parameters to

ensure that the resource utilization values comply with agreed upon SLA resource

4 utilization values.

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1 41. (Previously Presented) The method claimed in claim 25, further comprising:

selectively modifying SLA specified resource utilization values to ensure that

the current communications network operation is accommodated in the SLA.

1 42. (Previously Presented) The method claimed in claim 25, further comprising:

providing a proposal for traffic content redirection onto one of existing

infrastructure and new to be deployed infrastructure.

1 43. (Canceled) The method claimed in claim 25, wherein the central entity is a

2 network management system.

1 44. (Previously Presented) The method as claimed in claim 1, wherein said

2 tracking, adjusting, and reporting are carried out by more than one of said

3 communication nodes.

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- 1 45. (Previously Presented) The method as claimed in claim 12, wherein said
- 2 arrival curve parameter report is received from more than one of said
- 3 communication nodes.
- 1 46. (Previously Presented) The method as claimed in claim 25, wherein said
- 2 tracking, adjusting, and reporting are carried out by more than one of said
- 3 communication nodes, and said arrival curve parameter report is received from
- 4 more than one of said communication nodes.